The
Timex/Sinclair NorthAmerican User Groups Newsletter

FROM OUT OF 'THE ASHES' RISES
>>>> *ZXir QLive Alive!* <<<<

Timex/Sinclair NorthAmerican User Groups   Auburn, Indiana

Volume I, Number 1   Spring 1991

MEMORY MAP

T/SNUG CHAIRMEN

Here is the list of 1991 T/SNUG Chairman and how to contact them. We wish to support at least the following SIGS, ZX80/ZX81, SPECTRUM/TS2068/TC2068 and QL. If you have questions about any of these fine machines contact the Chairman.

POSITION	NAME	PHONE	PRIMARY FUNCTION
Chairman	Don Lambert	219-925-1372	Chief Motivator
Vice-Chairman	Bob Swoger	708-837-7957	Newsletter/BBS Sysop
Vice-Chairman	Al Feng		Nite-Times News/CATUG QL
Vice-Chairman	Rod Gowen		Plotter/CCATS
Vice-Chairman	Bill Harmer		TS Bullitin
Vice-Chairman	Open		QL
Vice-Chairman	Open		Dues and Purchasing
Vice-Chairman	Open		Librarian
Vice-Chairman	Open		What can you do?

Copyright(C)1991 Timex/Sinclair NorthAmerican User Groups

ZXir QLive Alive!
Kick-off Announcement

SNUG is DEAD!
     Long LIVE T/SNUG!

If you feel as I do,
                    READ ON!

If a doctor saw no life in a
body for six months he would
presume that body was dead! If
our user group doesn't hear
from another user group for six
months we presume it is dead
and we cease to exchange
newsletters with it. We have
waited long enough for the
leaders of SNUG to MOVE but
they haven't! Do you all
remember "Lead, follow or get
out of the way!"?

The folks at the helm presently
must not be thought of as BAD,
they just don't have the time
to devote to this undertaking.
Therefore, let us not chase
them away as we will need their
help, let's just ask them to
step aside and let us get
moving. As Larry Kenny points
out all the time "being
negative causes destruction and
lose. The SNUG officers are
fine men, they are just
overloaded.

Since SNUG was supposed to be
US, the SINCLAIR community, WE
must be the ones to get it
MOVING!

We have a MAN WHO IS WILLING
and HAS THE SPUNK to motivate
OTHERS who will MOVE. That man
is Don Lambert of AUBURN,
INDIANA, formerly of CRAGIST,
the newsletter of the CEDAR
RAPIDS, IOWA group. T/S user
groups, let's give Don his
head, as you would let go of
the restraints of a horse, and
LET HIM TAKE YOU there, that is,
to a place that gives you a
warm feeling!

What I am proposing here is
that WE allow Don to be the
CHAIRMAN of a NEW organization
called   T/SNUG,   the
Timex/Sinclair   NorthAmerican
User Groups, and then, ask each

T/S users group to motivate a
VICE-CHAIRMAN from their group
to add their names to the list
of   vice-chairman   for   the
purpose of maintaining activity
in   T/SNUG.   The   present
conventional officer set-up of
SNUG makes no sense! The
president has to call meetings
and have the other officers
present. For a continent wide
outfit, HOW? How can you vote
them out?

A good number of T/S users are
retired and have talent. Let's
get this show on the road and
use that talent!

If Don took the reigns as
Chairman, and other men took a
vice-chairmanship for other
tasks, Don would not have to
wait on others to get an OK to
move from a few officers, he
could move on his own from what
he gets from a pool of about
20. Also, Don has most of the
equipment. What say we give him
a try? At first he will be the
whole thing, but as each member
group adds to the list of
vice-chairman willing to do
some task, this thing can grow.

Don would put out a newsletter
at least four times a year.

Don would see to it that
software libraries were built
up   and   listed   in   the
newsletter periodically.

Don would build a list of
every known T/S user in North
America and make it available
to all user groups.

The T/SNUG newsletter would
always be available on BBS so
that all the INFO(could be
downloaded.

The T/SNUG newsletter would
also include printings of
vender catalogs FREE to the
VENDERS.

CATUG did offer SNUG newsletter
help and SNUG did not take it,
we offered BBS help and SNUG
did not take it. Don will
accept help from all of us.

2

How do we give this a try? Find

someone in your group who is retired and willing to send copies of your newsletters to Don in hard copy and 5 1/4" disk in one of the formats he mentions in his letter and see what he does with it. A small check of encouragement would be nice to get this moving, As for FUNDS? They would be in the future the same as for SNUG and if SNUG has any left on hand now, they could forward those funds to Don eventually. Don must not do this out of his own pocket, for sure, his wife would kill him!

As for a mailing list, if Don can't obtain a list from SNUG, he can build a new list from the user groups.

If you feel as I do, talk this over with your user group, find a vice chairman for T/SNUG and have him or her get in touch with Don.

Many thanks to Al Feng for the newsletter name, ZXir QLive Alive! It expresses the wish of many to keep the ZX/TS/QL family of computers going for decades to come.

Bob Swoger, Representative
Chicago Area Timex Users Group

T/SNUG Information

ZXir QLive Alive! is the newsletter of T/SNUG, the new Timex/Sinclair NorthAmerican User Groups. We are committed to put out at least four newsletters a year. For an annual contribution of $12.00 for individuals or $15.00 for user groups you can become a T/SNUG member with full membership privileges. We will earn your support! For now, send your contribution to:

DON LAMBERT
ZXir QLive Alive Newsletter
1301 KIBLINGER PL
AUBURN IN 46706

T/SNUG, the Timex/Sinclair NorthAmerican Users Group, wishes to have chairman from every North American users

group who will take charge of sending us your user groups news letters and other correspondence. If you desire to reprint any articles that appear here, please provide credit to the author and this newsletter.

We encourage your user group to copy this newsletter and distribute it at your regular meetings to your members.

Articles appearing in this newsletter can be obtained by downloading this newsletter from our BBS. You may reprint it using this means if you wish.

ZXir QLive Alive!
ARTICLE CONTRIBUTIONS

If you would like to contribute an article to the newsletter, upload a file to our BBS called TSNUG.ART . If you have an AD for the newsletter UPLOAD a file called TSNUG.ADS. If you have NEWS to POST about your group, UPLOAD a file called POST.NWS .

If you need help contact the SYSOP by mail, E-MAIL on the T/SNUG BBS, or by phone:

BOB SWOGER
613 PARKSIDE CIR
STREAMWOOD IL 60107-1647

It is preferred that you call:
H708/837-7957 or W708/576-8068

If you can only contribute hard copy or disk format, send your inputs to:

DON LAMBERT
ZXir QLive Alive Newsletter
1301 KIBLINGER PL
AUBURN IN 46706

It is preferred that you call:
H219/925-1372 before sending.

CONTRIBUTORS TO THIS ISSUE

EMSOFT
Don Lambert
RMG
SHARP
Bob Swoger, K9WVY

3

T/SNUG MEETINGS

T/SNUG, the Times/Sinclair NorthAmerican Users Group, can't hope to have meetings if we are spread all over the continent, so we will meet in user group newsletters. Each user group can express the needs of the T/S community in open letters to T/SNUG.

One meeting of T/SNUG is possible at DAYTON in August as we are finding that ISTUG, CATS, SMUG and CATUG will all be there.

FROM THE CHAIRMANS DESK

Happy 1991! The turn of the decade certainly has heralded many changes. 1991 sure started out with a bang, Desert Storm and all, but one small shocker was a phone call from Bob Swoger after he read a letter I wrote to CCATS on it and here is a portion of that letter:

      To: CLACKAMAS COUNTY AREA
          T/S USERS GROUP

Dear T/Sers,

Is there a SNUG? That depends upon what you call it. I talked to Paul Holgren and the next issue (is it #3) is about ready to be mailed. I got a firm promise of that before the next meeting of ISTUG (March 30th) but also at the last meeting I got assurances it would be mailed within two weeks.

I assure you it does me no good as an editor not knowing when it will get published and mailed so that I will know what material was used in the issue so that I can lay out the next issue. I do have the material for the next few issues and some material of my own to include.

This is not by my design but what has been given to me, I do not have the list of addresses of members or I would have dug into my pocket and gotten something out. For some reason they or Paul wants to retain the control of the printing and mailing. And Paul is 155 miles away and letters go unanswered and telephone calls get expensive. They requested me to be SNUG newsletter editor last November and so far not much has been done. That seems typical of SNUG.

If I had the information to be able to mail out to the SNUG members, something would have been done, at least by last Christmas. Nothing fancy but at least let everyone know that SNUG was still around. Several times I almost gave up but I keep thinking that it will get going. I hope that it will before all the T/Sers leave the fold.

Rumors and hints of a pending election of SNUG officers means maybe someone can be elected to get this going. I admit that I am not a political animal but more of a doer and maybe that is what is needed. Of course, if I were an officer I might antagonize some members but that would be better than what is going on now.

About elections, I would accept an office, I don't know the duties of any but I would not turn down any. But I would want to continue the SNUG newsletter if at all possible unless someone with better qualifications comes along. It will be a thankless job I know but if anyone sends me material the newsletter will continue.

Look not only at a persons ability but also at their ability to devote time to it. Nominate someone that will work at it, not a name that just hasn't time to do it. By default you are almost looking at retired people to do the necessary work. But also most retired people have their time well scheduled and want to do other things too. For example, Bill Jones of UPDATE. I am proud to have known him even if it was by telephone and letters only.

As far as my abilities with the T/S computers, I am still in the beginners stage in many ways. I will admit that since I have attended the ISTUG meetings beginning back in October (I missed the January meeting, swap meet too) I have learned so much more. Not what I would go to the meetings to find out but what was there to learn and what the others wanted to explain. I still have problems but I am further along than before I moved into ISTUG territory.

I only work with the ZX80, ZX81, T/S1000, T/S1500 and the T/S2068. I do have one T/S2068 with the SPECTRUM ROM but I have not used it. When I feel that I have learned the T/S2068 I will be ready for the SPECTRUM. Since the QL and the Z88 do not use the same language I am not interested in them. At present, the only time I would want to have a QL is when I need to copy an EPROM.

I have much hardware for the above computers and lately, March 2nd, I performed a marriage and now have the LarKen/Oliger disk systems [SUPER DOS] running on my working T/S2068 computer. I did not do the complete hardware modification of the LarKen dock board since I did not bend out pin 1 of the 74HCT74 chip on the OLIGER SAFE board and tie it to pin 14 so that I could power up with both interfaces active without the computer freezing up as suggested by Larry Kenny. The only problem is that I cannot LOAD my Oliger version of MSCRIPT V5.5 with the LarKen board enabled. If I do and I try to LOAD a file the computer does a NEW! A quirk I can live with since I an now aware of it. The reason I did not bend out pin 1 is that the chip is soldered in.

On the ZX81 I am trying to get an AERCO disk interface working with double sided 40 track drives. The used system that I have has one single sided 35 track drive and the docs confirm that it was from the days of 8 inch drives and when the first 5 1/4" drives were single sided 35 track and quite likely single density since the software asks when you FORMAT if it is single or double density. Changing drives requires a new interface EPROM. AERCO still makes the system and supplies the EPROMs. The LarKen ZX81 disk system but to SAVE a program that has machine code in it you have to POKE the start address and the length of the code and I do not know how to find that out.

On the T/S2068 I have been transferring my LarKen MSCRIPT files to Oliger by way of a cassette version of MSCRIPT V5.0 which I converted to LOAD LarKen and to SAVE Oliger. That does beat SAVEing to cassette and reLOADing to the other version of MSCRIPT which I did a few times before I got the LarKen/Oliger marriage performed.

Anyone with comments to send in to SNUG please do this, ask for help, got something to sell, want to buy something, got a problem, got a solution to a problem you have had. Anything at all about any of the T/S computers including the clone of the ZX81, the PC8300 (or IQ8300).

If you write and want an answer please use a LSASE so that I do not have to dip into my allowance to reply. My postage bill is high enough and the new rate does eat into my allowance even more. Can't believe how fast the stamps go, I buy them about 40 at a whack and it seems like I have to do it more than once a month. Same with telephone calls, I am willing to talk anytime except that my wife when she is home does like to have me do other things. . . . .

Bob Swoger is the Editor for the Glenside Color Computer Club, the Chicago Area Timex Users Group, and both President and Editor of the Motorola MicroComputer Club in Illinois. He suggested that I take the

5

bull by the horns and become the chairman of a new group that would do what SNUG was supposed to do. Now, Bob is some kind of salesman and he feels that we will get the backing of the T/S community if I accept this chairmanship and we, the T/S community, break loose from SNUG and 'RUN WITH IT' so to speak. OK, I am willing to give it a try.

I will need your help, I can't do it alone, but I assure you that when I say that the Timex/Sinclair NorthAmerican Users Group is going to be moving forward in innovative software, user support, and product assistance; you are not hearing the rumblings of a madman nor the visions of a lunatic. You are hearing the convictions of one who knows the binding power of this fellowship, and the collective desire to 'help the person next to me'.

Don Lambert, Chairman
Timex/Sinclair NorthAmerican
User Groups

SYSOP's TWISTED PAIR

! ! ! R E M E M B E R ! ! !
We now have a 24 hour BBS and encourage you to exchange mail and contribute to the Download Section. Use it and have fun!
```
*******************************
*                             *
*       T/SNUG BBS            *
*     708/576-7072            *
*  Type at the > prompt:      *
*    MOTOROLA then GUEST      *
*       BYE to log out        *
* Commands are: DIR,TYPE,MAIL *
*    UPLOAD filename.type     *
*    DOWNLOAD filename.type   *
*******************************
```

TREASURY NOTES

In this spot we will give you an accounting of our finances, you have a right to know.

The current paid membership stands at 0.

For the year 1991 forward, please be ready to include your ZIP+4 code when you renew your

membership. It will speed up the mailing. Thank you!

NEWS ITEMS

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
DAYTON ComputerFest August
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
It has been reported by Bill Heberlein, the President of the SMUG group that CATS, CATUG, ISTUG and SMUG are planning to be at the DAYTON ComputerFest in August. The exact date is still not known yet but we hope the Sinclair community will take this opportunity to make a good showing. We will let you know of the exact dates and other details when we find them out.

ARTICLES

OLIGER PROPOSES DETENTE
WITH
LarKen!

by
Don Lambert

I have gotten involved with disk drives and different disk operating systems (DOS) for both the T/S2068 and the ZX81. Currently I have two different DOSs for each. I started out with the LarKen DOS for the T/S2068 and I thought that was the very best. It will support 3 1/2" or 5 1/4" Single or Double Sided, Double or Quad density SHUGART compatible disk drives.

The interface will service 4 disk drives plus a RAMDISK. It uses cassette commands but with a prefix. To LOAD you would enter RAND USR 100: LOAD "XXXXXX.(A or B or C)X". As you can see you have six characters, a mandatory decimal place and then a mandatory A or B or C and then an optional character but there has to be one. Contrary to cassette, you have to FORMAT a disk before you can SAVE a file to it. Once you have done the key punching, the LOADing or SAVEing or other LarKen commands are fast. To change drives you use: RAND USR

6

100: GOTO (0 or 1 or 2 or 3 or 4) with 4 being the RAMDISK.

The main difference between RAMDISK and the regular drives is the speed of LOADing and SAVEing and also the fact that it is silent. I thought that was great.

Then Bob Swoger of CATUG (Chicago) sent me a copy of LogiCall which is an Auxiliary Operating System for the LarKen. LogiCall is installed on every disk you have and only takes up one track. When you power up the computer LogiCall is LOADed by AUTOSTART. The LarKen disk CATalog is displayed on the screen and a DRIVE? prompt is displayed at the bottom of the screen. If you wish to go to another drive you hit 0 thru 4 then the ENTER key. It automatically displays the CATalog of that disk on the screen. It then displays the PROGRAM? prompt at the bottom of the screen. You may now either type in the file name of that program or just hit ENTER. If you just hit ENTER, the first file name in the CATalog is highlighted and the file name also appears to the right of the PROGRAM? prompt. You use the arrow keys to move the highlight box around the CATalog. Then hit ENTER and that program will LOAD. Saves a lot of key punching but it can be slow if the program you want is at the bottom of list.

LogiCall not only loads the BASIC programs into the machine but also displays SCREENS saves using the .C$ file extension right to the screen for you to see. It also displays word processor files that end in .CT and .Cm to the screen from disk. It erases files from the CATalog and renames files, it LOADS in the word processor, terminal software, AUTOSTART, HELP screens, MOVE and FORMAT programs with just 2 key strokes.

Changing drives is done by entering the drive number you wish to go to and then ENTER at either the DRIVE? prompt or the

PROGRAM? prompt. You can get the DRIVE prompt to return by keying D then ENTER and refresh the CATalog with 9 and ENTER. Frank Davis says LogiCall is a 'MUST' for LarKen owners.

One feature of LarKen that I didn't mention is that the FORMAT/COPY and MOVE programs are on disk so when you wish to FORMAT you have to LOAD that program. Also, you need a disk of utilities since there are many things not in the LarKen EPROM. (This was done to allow for Sequential and Random Access file manipulation, a true program MERGE command, windows and other graphic commands not possible in the Oliger system. The T/S community has yet to TAP these resources.)

Since I am in Oliger country and I am to be the T/SNUG newsletter editor I needed to be compatible with the local group. I had checked and the Oliger disk interface plugs into a mother board that I had from when I got it for an EPROM programmer. So all I needed was the two Oliger disk boards and while I was ordering I ordered the Oliger printer interface. The first thing that I noted was that the manual was more detailed and that there was no disk for utilities. There is a small program listed inside the cover of the manual for the menu/loader program. And then the differences began to show.

The LarKen will Format 35, 40 or 80 tracks. The Oliger will FORMAT from 2 tracks to 256 tracks. If there is enough magnetic medium on the disk you can FORMAT to many more tracks. [Unfortunately, if you try this trick, you may wind up ruining the head stepping mechanism of your disk drive against one end of its travel knocking your heads out of alignment. Some folks have already experienced this on drives by particular manufacturers. We will try to get a list.]

Testing some disks I successfully FORMATed on an 80

track drive to 90 tracks. And that gave me capacity of 90 X 2 X 5K is 900K and with track 0 using 5K that leaves 895K for files. And track 0 has about 1.5K reserved so that it doesn't even use any file area. And the commands are like the cassette commands except that you put a slash after the command like: LOAD/"ten characters". If you have a disk with the menu/loader on it in drive 0 and you have just turned on the computer you enter LOAD/ and press ENTER and the menu goes to the screen and there is a cursor and no matter which key you use it hops down the screen and back to the start if you overshoot. Unlike LogiCall, you can't move back up to a file if you overshoot, you must go all the way through the directory again to get back to the program you want to LOAD in but it moves faster than LogiCall. When the cursor is on the program you want to LOAD press ENTER. Oliger does save a lot of keyboarding when LOADing and doing other things. If you want to change drives you: LET/D=X (X is 0 to 3) and ENTER. Of course the LarKen RAMDISK will not operate.

There is one other program which is a utility and that is DFM ABC which greatly helps when copying disks. It also will arrange the file names in alphabetical order so that when the files are copied they are copied in that order. I used that today to arrange my address files that I use to ADD the addresses to my letters.

Both systems have a NMI snap shot SAVE. Both use a lot of disk space when they do that. The LarKen SAVES all below RAMTOP and optionally the screen area as well while the Oliger SAVES all of memory including what is above RAMTOP. Both require an extra command to Load the program, on the LarKen it is CODE and on the Oliger it is ABS.

LarKen systems have two boards, a Disk Controller Board which

plugs into the BUS connector on the rear of the T/S2068 and provides a BUS extension, and a DOS Board which plugs in the dock port. That means that dock port cartridges can not be used when you use the disk interface [unless you plug EPROMs containing the dock port programs into the LarKen DOS board in the socket over the RAM] The Oliger system has three boards, the Disk Controller Board and the DOS Board plug into a mother board which in turn is plugged into the rear of the T/S2068. [The need of this third board is why the JLO system is priced so much higher.]

Now that does enable us to do something quite amazing and that is have both systems going at once with the same disk drives being used for either. To do this you will need V2.54 or later EPROM for the Oliger system. [John Oliger as of late has released his version V2.55 EPROM to work with the LarKen LKDOS version O3 EPROM. V2.53 would wipe out the directory track on the LarKen disks and cause Bill Jones' UPDATE readers to come away scratching their heads.]

And you will need a Special EPROM for the LarKen dock board, do a line cut and solder in a disable switch, my Oliger already had the switch installed otherwise I would have had to do it. With the LarKen board modified and installed and the Oliger board disabled (another set of lead cutting and soldering would eliminate this) power up and the computer is in LarKen but using the two Oliger interface boards. Now if you enable the Oliger board and do this: RESTORE/S and ENTER then the Oliger is also enabled and which ever disk command is given is which disk system is used. If you use an Oliger disk in and use a LarKen command the computer is not bashful to report disk I/O ERROR. If the program will break you could LOAD in on one disk DOS and SAVE it to the

other, conversely, if it was a snapshot SAVE it could be LOADed in one and NMI snapshoted in the other. However, in that case you have to disable the DOS not being used or else both will fight to do the NMI SAVE. That is the need for a disable switch. With the LarKen, if you want to SAVE and have no FORMATed disks handy, you are sunk. But with the Oliger, you can FORMAT a disk since it FORMAT is EPROM resident. Thus you can avoid the problem of not having a FORMATed disk. I use a word processor on my T/S2068 called MSCRIPT and the version I like to use is V5.5. I had it in LarKen DOS and I could not find the SAVE and LOAD commands to convert it to Oliger but I have since found an Oliger copy. But since I seem to be using Oliger DOS all the time and most of my files are in LarKen I wanted to convert the LarKen files to Oliger. I have a much earlier version, V5.0, which I got as a cassette version and I could find the LOAD and SAVE commands and so I made the LOAD LarKen and the SAVE Oliger. Fine and dandy it worked and I got a bunch of files SAVEd to Oliger. Then using the BACKUP command in the word processor I SAVEd that version of the word processor. But later when I went to use it again, I could not get it to LOAD and I got that can't find report or else wrong file type error.

Finally, I realized that it was a CATCH 22, I had SAVEd it in Oliger mode but the program was written to use the LarKen mode. I finally realized how to do it so I LOADed the earlier version again and got back into the program and changed the LOAD and SAVE and then I pushed the NMI snapshot SAVE button. And when I NEWed and tried to LOAD it came right up. I named the file "mscriptl- o" so I would know which it is.

Last night I tried to FORMAT a disk for the LarKen but as soon as the program went to the disk drive it hung up. I wonder if it is because I did not do one modification to the LarKen dock board. I had to install the pure LarKen disk system to get a disk FORMATed. [Don did not realize that LarKen O3 DOS used for SUPER DOS requires the FORMAT.Bo program, not FORMAT.B1, to format a disk]. Everything else seems to work except the LarKen RAMDISK will only work with the LarKen enabled but with both LarKen and the Oliger enabled so I wonder since I do not plan to use the LarKen much if I should even consider modifying the board. It requires bending a leg out on one chip and running a wire from it elsewhere. And since the chip is soldered in it might be hard to get the leg cut and bent out. Will try to find out at the LSTUG meeting. That pretty much covers the T/S2068 and my disk system except that there are about 1700 disk systems for the T/S2068 and of those about 58% are either LarKen or Oliger. I would like to be compatible with all but there is a limit, especially since some systems were only made in two's and three's.

STEPPING RATE FIX
by
Bob Swoger and Larry Kenny

The May 1989 issue of Capital District T/S Computer Club's newsletter told of two members using T/S2068's with LKDOS having trouble reading each other's disks. It seemed that Fred Lewis could read John Warrens disks but John could not read Fred's disks. This sounded familiar to me as I once had trouble reading disks that came from Rod Gowen and Larry Kenny.

The problem I had was head stepping rate. The drives I use have a 30ms stepping rate. This means that to move from track 0 (the directory track) to track 40 requires 1.2 seconds. A 6 ms stepping rate requires only 240ms. What the controller chip does is wait a period of time to begin reading or writing the disk to give the head time to

get to the desired track! The information for the stepping rate is placed in track 0 when the disk is FORMATed.

There is no problem reading the directory track because the head starts there, but the head on John's drive is not yet over the correct track when the controller tries for the read. For this reason John Warren could not read Fred Lewis's disks. Fred either has a newer controller chip or has drives with a 6 ms stepping rate and FORMATed his disks accordingly.

I could not read the SYSTEM disk that Larry had sent me. Larry had not run into the slower drives up to that point. Mine are DEC dual drive units using TEAC drives purchased in the early 80's as a group buy and are so reliable I just won't give them up.

Larry was sure he had the answer when I phoned him and to get me started back in February of 1988, he sent a program to the club BBS at 2 AM while I slept to fix his disks so that I might read them. I tried it and it worked! I re-wrote it and called it steprt.B1 The stepping rate information is in track 0 and his program fixes the disk to the 30 ms stepping rate.

Now about controller chips, Larry stated that he started using the new Western Digital chips that could only select 6 ms or faster head stepping mechanisms. I told him, each time I ordered, to send me only the old WDC WD1770 controller chip in units he built for me and my friends as over 200 of these TEAC units are in the area and we all want to be compatible.

When passing around disks for the LarKen disk operating system be sure they are formatted single side 40 track with a 30 ms head stepping rate so we all can read them.

To read unreadable disks, just load in the program below, it

will autorun. After removing the write protect label from the faulty disk, place it into DRIVE 0 and press <ENTER>. Follow the instructions and you will be able to read it from then on. I have tested it on LARKEN and RMG disks.

```
100 REM STEP RATE CHANGER BY
LARRY KENNY and BOB SWOGER V2.1
for the LARKEN DSK-400 system
110 REM Written and placed in
the public domain by
Bob Swoger
613 ParkSide Circle
Streamwood, IL 60107-1647
120 REM Use to change the head
step rate on Track 0
280 CLEAR 39999
290 BORDER 1: PAPER 1: CLS
300 PRINT AT 2,4: INK 2; PAPER
7;"LARKEN DISK UTILITY v2.1";
PAPER 1;AT 4,4; PAPER 2; INK 7;
" Head Step Rate Changer ";AT
6,5;" 1988 Robert Swoger "
310 INK 7: PLOT 0,108: DRAW 0,
62: DRAW 255,0: DRAW 0,-62: DRA
W -255,0
320 INK 7: PLOT 8,114: DRAW 0,
50: DRAW 238,0: DRAW 0,-50: DRA
W -238,0
1010 REM MC STEP RATE CHANGER B
Y LARRY KENNY OF LARKEN ELECTRO
NICS V1.0
1020 PRINT AT 10,0;"The head st
ep rate is importantfor proper
operation of the diskdrive.";'
"Too fast and others may not
beable to read your disks.";'''
Too slow and your drive may
purrwhen moving from track to t
rack.": INPUT " Press ENTER whe
n ready >": LINE p$
1025 PRINT AT 10,0;"The LarKen
DSK-400 Floppy DiskInterface
presently comes in twoversions.
Version - L3 uses aWD1770
controller chip and canhandle
head stepping rates of6, 12,
20 and 30 mS. Version L3Fuses a
WD1772 controller chipand
handles the newer and fasterdri
ves with head stepping ratesof
2, 3, 6 and 12 mS.": INPUT " Pr
ess ENTER when ready >": LINE
p$
1030 PRINT AT 10,0;"If your sys
tem is Version - L3and you wish
to send disks toothers usin
g versions A3, L3, OJor L3, use
the 30 mS step rate.If you sen
d a disk to users ofversion
L3F, use the 12 mS steprate. T
his may mean that you canno
```

longer read or write to thatdi
sk. If you receive a disk
thatmakes your drive 'purr' the
n runthis program to fix the
disk

foryour particular head step r
ate.": INPUT " Press ENTER when
ready >"; LINE p$
1035 PRINT AT 10,0;"This progra
m changes the headstep rate on
track 0. Head steprate is the
minimum speed in mSwhich a head
stepping mechanismcan travel
from one trackto the nex
t.

Remove the writeprotect la
bel, place the diskwhich needs
its head step ratechanged int
o DRIVE 0 and pressENTER.

"

1040 INPUT " CONTINUE ? "; LINE
p$: IF p$<>"" THEN IF p$(1)="n"
OR p$(1)="N" THEN GO TO 9998
1050 INPUT "Head speed 2 3 6 12
20 30 mS?"; LINE p$
1055 IF p$="q" OR p$="Q" THEN S
TOP : GO TO 9998
1060 IF p$="2" THEN LET p$="20"
1065 IF p$="3" THEN LET p$="30"
1070 IF p$<>"6" AND p$<>"12" AN
D p$<>"20" AND p$<>"30" THEN GO
TO 1040
1075 LET s=INT ((VAL p$/6)-(1+
(p$="30"))
1080 RANDOMIZE USR 100: GO TO 0
1090 RESTORE 1150
1110 FOR A=40000 TO 40030
1120 READ B: POKE A,B
1130 NEXT A
1140 REM THE s IS THE STEP RATE
1150 DATA 243,205,98,0,175,50,2
9,32,205,126,0,205,123,0,62,s,5
0,134,32,205,120,0,58,100,0,251
,201,0,0,0,0
1240 PRINT AT 20,12; FLASH 1;"W
ORKING!"
1250 RANDOMIZE USR 40000
1260 PRINT AT 20,12; FLASH 1;"F
inished"
1270 REM GO TO 9989
1280 GO TO 9989
1360 FOR B=40000 TO 42000: PRIN
T PEEK B;",": NEXT B
9989 RANDOMIZE USR 100: GO TO 4
9992 RANDOMIZE USR 100: SAVE "s
teprt.B1" LINE 100
9993 REM RANDOMIZE USR 100: SAV
E "steprt.B1" LINE 100
9998 RANDOMIZE USR 100: LOAD "L
.B1"